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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,784	10/27/2003	John W. Still	56.0708	2783

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EXAMINER

BUTTNER, DAVID J

ART UNIT PAPER NUMBER

1712

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

8

Office Action Summary

Application No.

10/605,784

Applicant(s)

STILL ET AL.

Examiner

David Buttner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) 21-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 11, 14, 16-18, 20, 24 is/are rejected.
- 7) ☐ Claim(s) 5-10, 12, 13 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim 24 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Cooke 2003/0060374.

Cooke suggests hydraulic fracturing of wells by injecting a degradable polymer (abstract). The degradable polymer is preferably polylactide (claim 13). Cooke places the degradable polymer in a wellbore as a dispersed phase (ie particles). The degradable polymer is then converted to a continuous phase to form the fracturing fluid (first half of paragraph 14). However in other embodiments, the degradable polymer may be injected into the fracture as the discontinuous phase (ie particles) when high viscosity is not required (middle paragraph 14). This lesser preferred embodiment meets applicant's step of injecting particles into the formation.

Claim 24 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Erbstoesser '964.

Erbstoesser (abstract) suggests the use of degradable polymers in wellbore compositions. The polymer is preferably polylactide (col 3 line 15). The composition can be used in fracturing treatments (col 6 line 46-50) to maintain a wedging effect and propagate the fracture. Undoubtedly, the polylactide is in the formation. The polymer later degrades (abstract).

Claims 1-4,11,14,16-18,20 and 24 rejected under 35 U.S.C. 103(a) as obvious over Cooke 2003/0060374.

Cooke suggests hydraulic fracturing of wells by injecting a degradable polymer (abstract). The degradable polymer is preferably polylactide (claim 13). Cooke places

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the degradable polymer in a wellbore as a dispersed phase (ie particles). The degradable polymer is then converted to a continuous phase to form the fracturing fluid (first half of paragraph 14). However in other embodiments, the degradable polymer may be injected into the fracture as the discontinuous phase (ie particles) when high viscosity is not required (middle paragraph 14). This lesser preferred embodiment meets applicant's step of injecting particles into the formation.

Cooke does not explicitly teach concentrations of the polylactide. However, Cooke does state the fractional volume of polymer when being pumped down the well should be low enough that the polymer is not the continuous phase (paragraph 29). Later, Cooke states the polymer becomes the continuous phase at 50 volume % (paragraph 29). Therefore it is inferred that the initial fracturing fluid has less than 50% polylactide by volume. Based on the known density of polylactide (~1.2g/ml col 30 line 26 of Ryan '873), this converts to less than 0.6kg/L.

Additionally, differences in concentrations will not support the patentability of subject matter encompassed by the prior art without a showing of criticality (MPEP 2144.05 II). Routine experimentation would uncover the optimum concentration of polymer in the fracturing fluid.

Claims 1-4,11,14,16-18,20 and 24 rejected under 35 U.S.C. 102(a,e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over provisional application 60-325071.

The provisional application is relied on by 2003/0060374 for priority. The provisional application became available for public viewing at least as early as 3/27/03 (the publication date of 2003/0060374).

The provisional application corresponds to the previously described 2003/0060374 and additionally states the volume of the degradable polymer is 2-50% (paragraph 13). Based on the known density of polylactide (~1.2g/ml col 30 line 26 of Ryan '873), this converts to 0.02 - 0.6kg/L.

Claims 5-10,12,13,15 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Cooke does not suggest these additional materials.

Applicant's arguments filed 7/10/06 have been fully considered but they are not persuasive.

Applicant argues Cooke always employs the degradable polymer as the bulk phase rather than finely divided particles.

This is not convincing. Although Cooke prefers to fracture the formation while the polymer is in the continuous phase, Cooke also suggests fracturing while the polymer is in a discontinuous phase (ie particles). Preferred embodiments do not constitute a teaching away from nonpreferred embodiments (MPEP2123). Also note Cooke (paragraph 21) describes the "preferable" fracturing fluid as having a continuous polymer phase. This infers the polymer could be employed while in a discontinuous phase.

Applicant argues Erbstoesser's degradable polymer cannot be injected into the formation.

This is not convincing. Again, it might be said the reference prefers to utilize the degradable polymer in a manner different from applicant. However, the reference clearly states the fluid loss agent (ie the degradable polymer) is dispersed in the fracturing fluid and minimizes fluid loss ... to maintain the wedging effect and propagate the fracture (col 6 line 46-49). Certainly in this scenario the polymer is present in the formation. Erbstoesser is not limited to large diameter ball sealing particles, but can use very small (0.1-100micron) particles of the degradable polymer (col 4 line 51). These sizes will enter the formation.

The terminal disclaimer removes the obviousness double patenting.

This application contains claims 21-23 drawn to an invention nonelected with traverse in Paper of 3/8/06. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Buttner whose telephone number is 571-272-1084. The examiner can normally be reached on weekdays from 10 to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Buttner

DAVID J. BUTTNER
PRIMARY EXAMINER

9/1/06

